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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,765	05/04/2005	Toru Takashima	MTS-3555US	7905

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EXAMINER	
HSU, AMY R	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,765	TAKASHIMA, TORU	
	Examiner	Art Unit	
	Amy Hsu	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 15-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 15-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/4/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 29-32 are rejected under 35 U. S. C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 29-31 defines a program embodying functional descriptive material. However, the claim does not define a computer readable medium or memory and is thus non-statutory for that reason. Claim 32 defines a computer-processable recording medium carrying a program according to Claim 29, and the specification further defines the recording media to include the internet, light, radio waves, and acoustic waves. While "functional descriptive material" may be claimed as a statutory product (i.e., a "manufacture") when embodied on a tangible computer readable medium, a wave embodying that same functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory class of §101. Rather, "signal" or "wave" is a form of energy, in the absence of any physical structure or tangible material.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,15-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaya (US 2004/0109062) in view of Morita et al. (US 6985178).

Regarding Claim 1, Yamaya teaches a slave apparatus capable of communicating with a master device through a predetermined communication bus (*Fig. 1)* and having a plurality of communication modes of diverse kinds (*paragraph 56 communication modes such as "PTP" or "Normal")*, said slave apparatus (*Fig. 2)* comprising: judging means (*Fig. 2 reference number 6, controlling microcomputer)* of transmitting to said master device a notification code of notifying a presently set-up communication mode (*Paragraph 4 teaches that the master, PC, recognizes the slave camera as either a removable medium or a scanner, which mode the PC recognizes the camera as is determined by what the camera selects and tells the PC as seen in Fig. 3C)*, then judges that there is a connection which means the master received the input from the camera (*paragraph 73).* However, Yamaya only teaches the affirmative scenario that there is a connection due to the PC's received input from the slave. One of ordinary skill in the art would realize that there is no connection if there is an error in the PC receiving the camera's input.

Morita illustrates the general concept of a camera requesting connection from the host side point of view. In Fig. 13 S403 the camera requests connection and the host accepts then waits for a control command during a period of time. If the period of time has elapsed with no activity there will be a disconnection.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Yamaya to realize the non affirmative scenario when the PC does not receive the camera's input within a certain amount of time then a connection will not be made. This is a common scenario in connection between master and slave to account for various errors such as faulty connectivity with the USB wire for example and will produce predictable results. It would be obvious that a connection would be attempted continually afterward therefore the disconnect being only temporary. Yamaya teaches the default state can be the mass storage class "normal" mode (*paragraph 57)* therefore the communication mode is changed after an error in connection.

Regarding Claim 15, Yamaya teaches a slave apparatus capable of communicating with a master device through a predetermined communication bus and having a plurality of communication modes of diverse kinds, said slave apparatus comprising: judging means of transmitting to said master device a notification code of notifying a presently set-up communication mode (*as addressed above)*, and then judging whether a command received from said master device in response to said notification code corresponds to said presently set-up own communication mode or not

(*paragraph 90 describes how the master responds to an input received from the slave, and the slave responds to an operation received from the host, then the slave informs the master of the connection and the master detects the connection and performs mode recognition of the slave then the transaction of data is performed)*; and communication controlling means of performing control on the basis of a judgment result of said judging means in such a manner that when said command corresponds to the presently set-up communication mode, a state permitting communication with said master device is established in correspondence to the command, and that when said command does not correspond to the presently set-up communication mode, connection to said master device is electrically released temporarily and then said connection is restored; wherein by the time when said slave apparatus and said master device resume communication as a result of said restoration of connection, said communication controlling means selects one from a plurality of said communication modes so that its own communication mode is changed into one different from that used immediately before said release (*Similarly to Claim 1, Yamaya teaches the affirmative scenario when the master and slave have proper communication and receipt of inputs from each other then a connection is made. Same rationale is applied as Claim 1 to the scenario where there is an error in communication and a connection is not established).*

Regarding Claim 16, Yamaya teaches a slave apparatus capable of communicating with a master device through a predetermined communication bus and

having a plurality of communication modes of diverse kinds (*as addressed above)*, said slave apparatus comprising: communication mode identifying means of transmitting to said master device a notification code for notifying a presently set-up communication mode (*Fig. 3C shows the slave can identify the mode that is presently set to communicate with the master)*, and then identifying the kind of communication mode corresponding to a command received from said master device in response to said notification code (*the slave identifies the mode in the display in Fig. 3C which corresponds to what is sent to the master)*; and communication controlling means of performing control such as to change its own communication mode in correspondence to an identification result of said communication mode identifying means (*the mode is set according to the dial which corresponds to what is identified on the display in Fig. 3)* and then establish a state permitting communication with said master device (*the connection is established with the master as seen in Fig. 12)*.

Regarding Claims 17-19, Yamaya teaches the slave apparatus according to claims 1, 15 or 16, wherein said predetermined communication bus is a universal serial bus ("USB") type (*Fig. 1 reference number 101)*, which one of ordinary skill in the art knows operates by pulling up or down a voltage applied to a D^+ or a D^- line of said USB or by turning OFF a V_{bus} line through which a voltage from said hose device is supplied in said USB. It would have been obvious to one of ordinary skill in the art at the time of the invention to use one of the above methods to perform the release or

disconnection from the host. The above simply describes how a USB connection works and would therefore provide predictable results.

Regarding Claim 20, Yamaya teaches the slave apparatus according to claims 1, 15 or 16, wherein a plurality of said communication modes includes two modes: a mode corresponding to an imaging class and a mode corresponding to a mass storage class (*paragraph 56)*

Regarding Claim 21, Yamaya teaches the slave apparatus according to claim 20, wherein said mode corresponding to a mass storage class among a plurality of said communication modes is set up as an initial state. (*Yamaya teaches the mass storage class can be set as a default).*

Regarding Claim 22, Yamaya teaches the slave apparatus according to claim 17, wherein said USB embodied as a wire USB cable (*Fig. 1 reference number 101).*

Regarding Claim 23, Yamaya teaches the slave apparatus according to claim 17, but fails to teach said USB is embodied as a wireless circuit. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Yamaya to use a wireless circuit such as Wi-Fi or Bluetooth which are very well known wireless USB devices and therefore would have given predictable results.

Regarding Claim 24, Yamaya teaches the slave apparatus according to claims 1, 15 or 16, comprising displaying means of displaying information on a communication state including information concerning a communication mode presently set up (*Fig. 3C and Fig. 2 reference number 4).*

Regarding Claim 25, Yamaya teaches a digital camera comprising a slave apparatus according to claims 1, 15 or 16, and capable of transmitting recorded-by-oneself data recorded by itself to said master device through said communication bus (*Fig. 2 the slave device has image capturing means to record images to be sent to the master).*

Claims 26-28 are method claims enabling the apparatus of Claims 1, 15-16 respectively and are rejected with the same art and rationale as set forth above.

Regarding Claims 29-32, Yamaya inherently uses a computer program stored on a computer readable medium to run the functions taught by Yamaya. Therefore Claims 29-31 which refer to a program to control the apparatus of Claims 1,15-16 are rejected with the same art and rationale as set forth above.

Regarding Claim 33, Yamaya teaches a digital camera which is an information processing apparatus comprising a slave apparatus according to claims 1, 15 or 16, and capable of communicating with said master device. (*Fig. 1 and 2)*

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ito (US 7315323) teaches an operation situations of a plurality of functions of the camera can be checked from a front of the camera).

Endo (US 2005/0253930) teaches a printer periodically sends a request inquiry command to a digital camera at a high rate.

Itsukaichi (US 6897891) teaches a host computer includes a device driver which is adaptive to a digital camera and has a storage driver function.

Kayanuma (US 2002/0186317) teaches a free setting of the angle or direction of a camera is available while the camera is being inserted into a cradle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Hsu whose telephone number is 571-270-3012. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy Hsu
Examiner
Art Unit 2622

ARH 1/6/08

LIN YE
SUPERVISORY PATENT EXAMINER